

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in this application.

Listing of claims:

1-14 (Canceled)

15. (Previously Presented) A method for diagnosing an infection with *E. chaffeensis* in a patient comprising:

- (a) providing a serum sample from the patient;
- (b) providing one or more of the following:
 - i.) an isolated or purified outer membrane protein of *E. chaffeensis* or an immunoreactive fragment thereof, wherein said outer membrane protein is selected from the OMP-1 protein, the OMP-1R protein, the OMP-1S protein, the OMP-1T protein, the OMP-1U protein, the OMP-1V protein, the OMP-1W protein, the OMP-1W protein, the OMP-1X protein, the OMP-1Y protein, the OMP-1Z protein, and the OMP-1H protein,
 - ii) an isolated or purified outer membrane protein of *E. canis*, or an immunoreactive fragment thereof, wherein said outer membrane protein is selected from the P30 protein or a variant thereof having the same immunological characteristics as the P30 protein, the P30a protein, the P30-1 protein, the P30-2 protein, the P30-3 protein, the P30-4 protein, the P30-5 protein, the P30-6 protein, the P30-7 protein, the P30-8 protein, the P30-9 protein, the P30-11 protein, and the P20-12 protein, and the P30-13 protein;
- (c) contacting the serum sample with the outer membrane protein or immunoreactive fragment thereof; and
- (d) assaying for the formation of a complex between antibodies in the serum sample and the protein or immunoreactive fragment thereof, wherein formation of said complex is indicative of infection with *E. chaffeensis* or *E. canis*.

16. (Currently Amended) The method of claim 15, wherein said outer membrane protein of *E. canis* is the P30 protein or an antigenic fragment of the P30 protein.

17. (Currently Amended) The method of claim 15, wherein the outer membrane protein of *E. canis* has an amino acid sequence that is at least 95% identical to amino acid 33 through amino acid 224 of the sequence, SEQ ID NO: 32, shown in Fig. 19B.

18. (Currently Amended) The method of claim 15, wherein said outer membrane protein of *E. canis* has an amino acid sequence comprising amino acid 26 through amino acid 281 of the sequence, SEQ ID NO: 2, shown in FIG 3B.

19. (Previously Presented) A method for diagnosing an infection with *E. canis* in a Canidae patient comprising:

- (a) providing a serum sample from the patient ;
- (b) providing an isolated or purified outer membrane protein of *E. canis*, or an immunoreactive fragment thereof, wherein said outer membrane protein is selected from the P30 protein or a variant thereof having the same immunological characteristics as the P30 protein, the P30a protein, the P30-1 protein, the P30-2 protein, the P30-3 protein, the P30-4 protein, the P30-5 protein, the P30-6 protein, the P30-7 protein, the P30-8 protein, the P30-9 protein, the P30-11 protein, the P20-12 protein, and the P30-13 protein;
- (c) contacting the serum sample with the outer membrane protein; and
- (d) assaying for the formation of a complex between antibodies in the serum sample and the protein or immunoreactive fragment thereof, wherein formation of said complex is indicative of infection with *E. canis*.

20. (Withdrawn) An antibody which binds to a protein selected from the group consisting of P30, P30a, P30-1, P30-2, P30-3, P30-4, P30-5, P30-6, P30-7, P30-8, P30-9, P30-10, P30-11, P30-12, OMP-1, OMP-1A, OMP-1R, OMP-1S, OMP-1T, OMP-1U, OMP-1V, OMP-1W, OMP-1X, OMP-1Y, OMP-1Z, OMP-1H and combinations thereof.

21-23. (Canceled)

24. (Currently Amended) The method of claim ~~15~~ 19, wherein the ~~polypeptide outer membrane protein of *E. canis* or immunoreactive fragment thereof~~ is an antigenic fragment of SEQ ID NO: 32.

25. (Previously Presented) A method for diagnosing an *E. canis* infection in an animal comprising:

a) contacting a serum sample from the animal with an *E. canis* P30 protein or an antigenic fragment of the *E. canis* P30 protein, wherein said *E. canis* P30 protein comprises amino acid 26 through amino acid 288 of SEQ ID NO: 32, and

b) assaying for the formation of complex between antibodies in the serum sample and the *E. canis* P30 protein or the antigenic fragment of the *E. canis* P30 protein, wherein formation of said complex is indicative of infection with *E. canis*.

26. (Previously Presented) The method of claim 25, wherein said antigenic fragment comprises amino acid 33 through amino acid 224 of SEQ ID NO. 32.

27. (Withdrawn) The antibody of claim 20 wherein said antibody binds to the *E. canis* P30 protein and wherein the *E. canis* P30 protein comprises amino acid 26 through amino acid 288 of SEQ ID NO: 32.

28. (Previously Presented) A kit for diagnosing *E. canis* in an animal, said kit comprising the *E. canis* P30 protein, an antigenic fragment of the *E. canis* P30 protein, or both.

29. (Previously Presented) The kit of claim 28, wherein said antigenic fragment comprises amino acid 33 through amino acid 224 of SEQ ID NO. 32.

30. (Previously Presented) The kit of claim 28, further comprising a biomolecule for detecting interaction between the reagent and antibodies in a bodily sample of the animal.

Attachments:

Sequence Listing (paper copy)

Sequence Listing (computer readable form)

Statement to Support Submission of Sequence Listing